ALLERGY AND IMMUNOLOGY
RESIDENT CURRICULUM

I. Introduction

1. Allergy/Immunology is a field which interfaces with all subspecialties of internal medicine, and encompasses the understanding of allergic diseases, immune deficiencies, immunoregulatory disorders, immunodiagnostics and the therapy of immunologic and allergic diseases. Internists use immunologic techniques and principles to treat patients within their own discipline. Approximately 17% of the U.S. population are atopic, and 5-7% has asthma. The general internal medicine trainee should be familiar with the physiology, pathogenesis, differential diagnosis, and therapeutic approach of common disease entities in allergy and clinical immunology. Knowledge in these areas should allow the trainee in internal medicine to enhance their decision-making processes in order to best determine the need for referral to an allergist/immunologist for further evaluation and treatment.

2. It is the purpose of this outline to highlight those areas, which should be part of the training of general internal medicine candidates and students of medicine in general. Those topics of particular importance in the training of residents in general internal medicine include the following areas.

II. Educational Experience

1. Allergic Disorders

Trainees in General Internal Medicine should understand the basic principles of the diagnosis and treatment of:

a. Upper airway diseases--Allergic rhinitis, allergic conjunctivitis, and nasal polyposis. This would include discussion of symptomatic treatment (e.g.--allergy shots, environmental control and avoidance antihistamines) as well as indications for assessment of allergen-specific antibody (i.e.--skin testing) and institution of environmental control of allergens and/or allergen immunotherapy.

b. Dermatologic diseases--Urticaria, angioedema, atopic dermatitis, and contact dermatitis.

c. Lower airway diseases--Bronchial asthma, including exercise-induced asthma as well as occupational and cough-variant forms, and interpretation of pulmonary function tests.

d. Anaphylaxis--Should be aware of common triggers of anaphylaxis such as drugs, food, insect venoms and radiocontrast media (anaphylactoid). The approach to emergency treatment should be stressed.

2. Immune Deficiency Diseases

a. Primary immune deficiencies

(1) Understand the principles of cellular or T-cell, and humoral or B-cell immune function.

(a) Anatomy of the immune system including the lymphoid organs.

(b) T and B cell lymphocyte subsets recognized by surface markers and specific functions.

(c) Immunoglobulin classes including the laboratory measurements of immunoglobulin isotypes and specific antibodies.

(d) The origin and biological functions of the major cytokines which affect the immune response.

(e) Understand the general concepts of histocompatibility and graft rejection.

(2) Be able to develop a differential diagnosis for the common primary immune deficiencies, and in particular the humoral or B-cell immune disorders.

(3) Be able to construct an initial immune evaluation of these primary immune deficiencies including the diagnostic screening methods to evaluate T-cell and B-cell immune function.

(4) Be familiar with the principles of therapeutic care in patients with primary immune deficiency which includes general pulmonary hygiene, antibiotic use, and, if necessary, immunoglobulin replacement therapy.

b. Complement and white cell disorders.

(1) Hereditary angioedema and the acquired forms of C1 esterase deficiency.

(2) Neutrophil and phagocytic disorders, and the general laboratory assessment of leukocyte quantitation and function.

(3) Major hypereosinophilia syndromes, including their evaluation and treatment.

(4) Mastocytosis.

3. **Principles of Vaccinations**--Including recommended adult vaccination schedules and discussion of the individual vaccines in use.

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